

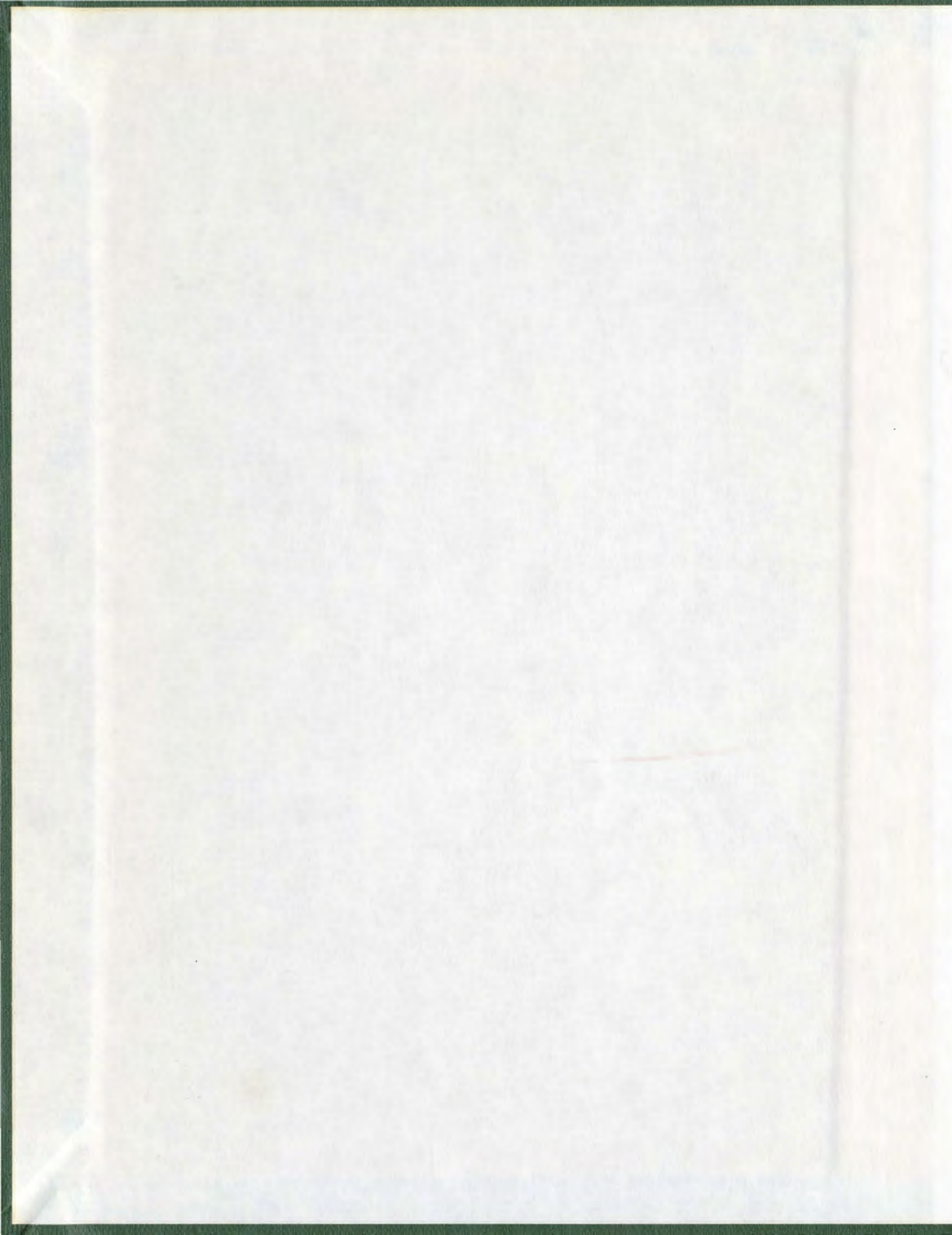
NON-DISABLED PERSONS'
ATTITUDES TOWARDS THE
PHYSICALLY DISABLED AS A
FUNCTION OF EDUCATIONAL
LEVEL AND CONTACT

CENTRE FOR NEWFOUNDLAND STUDIES

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NON-DISABLED PERSONS' ATTITUDES TOWARDS
THE PHYSICALLY DISABLED AS A FUNCTION OF
EDUCATIONAL LEVEL AND CONTACT

by



VERENA FLORENCE GOSSE

A THESIS

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ABSTRACT

The purpose of the study was to describe and compare the expressed attitudes of non-disabled persons toward the physically disabled as a function of educational level and contact. Attitudes were measured by the Attitudes Toward Disabled Persons scale (ATDP). Specifically, a comparison was made between ATDP scores of students who had experienced previous contact with physically disabled persons and students who had not, in each of three educational levels: junior high (grade seven), senior high (grade eleven), and second-year university.

Data from 273 junior high school, 268 senior high school, and 155 second-year university students were subjected to analysis of variance and Sheffé tests with the null hypotheses rejected at the 0.05 level of confidence.

Findings indicated that both educational level and contact were related to the attitudes of non-disabled subjects toward disabled subjects, and that there was an interaction between these two variables.

Generally, subjects in the contact group for each successive educational level tended to be more positive

in their expressed attitudes toward disabled persons than subjects in the no-contact group. In the no-contact group, however, there was no difference in attitudes toward disabled persons between the grade seven and university students, or between the grade eleven and university students, and for grade eleven students there was no difference between the contact and no-contact groups. Findings also indicated that there was no difference in attitudes toward disabled persons between grade eleven and university students. Thus, the interaction between educational level and contact did not appear to be linear.

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CHAPTER I

INTRODUCTION AND STATEMENT OF PROBLEM

Attitudes towards the physically disabled and the determinants of such attitudes have received wide attention from such varied sources as psychologists, physicians, rehabilitation personnel and disabled persons themselves. Even now there is considerable controversy, because of conflicting evidence, about whether or not the public's attitude toward the physically disabled is favorable or unfavorable.

Such uncertainty tends to complicate matters when attempts are made to alter public opinion. Perhaps the answer lies in studying samples of the population, determining their attitudes, establishing relevant factors, and possibly changing these attitudes by adopting programs that are based on empirical understanding of a particular group.

I. Purpose of the Study

This study describes and compares the expressed attitudes, as measured by a standardized scale, of non-disabled persons toward physically disabled persons as a function of three educational levels and previous contact.

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with physically disabled persons.

II. Background Theory and Rationale

A review of the literature on the physically disabled indicates that the problems of the handicapped are not so much of a physical nature as they are social and psychological. Meyerson (1948), in his brief history of attitudes towards the disabled, describes how these attitudes have varied throughout the years; for example, the ancient Greek view, "a sound mind in a sound body" with all its negative implications for the physically disabled, ranging to the widely held "over-compensation theory", which implies that the adjustment process of the physically disabled makes the person superior and capable of achievements that otherwise might have been beyond reach.

According to Meyerson, if these varied attitudes towards the physically disabled are examined a little more closely, it can be seen that the negative values which are placed upon the physical disability can be considered in three distinct ways:

- (1) those imposed by the disability itself [an inability to do simple everyday activities]
- (2) those imposed by society [segregation because of perceived differences between the disabled and non-disabled; for example, special schools]

- (3) those implied by the disabled person himself [based on values which stem in part from the regard with which he is held by his culture] (Meyerson, 1941, p. 2).

This research was directly concerned with the second category and therefore indirectly concerned with the third category as well.

A physically disabled person's attitude towards self and others like him is influenced by a number of factors. Examples are: personal values, that is, worth placed on self; personality, or general outlook on life; and environment, which consists of family, friends, medical team, people of the community, as well as the actual physical environment. A physically disabled person, to become well adjusted psychologically and socially, and capable of taking a place in society, must learn to cope with interpersonal relationships. Therefore, it is important to know and understand, as far as is possible, the attitudes held by non-disabled people toward the physically disabled.

Theorists in the field of social psychology have suggested that the principle of the "looking-glass" self is very important in the formation of the self-concept. The sociological definition of self consists of two components; the "I", which is the individual's perception of self and the "me", which is a reflection of the reactions of others. It can be concluded that these two

components interact with each other, since it is believed that a reasonably favorable self-image is probably essential to desirable mental health and social adjustment (Coopersmith, 1967; Mead, 1934; Wylie, 1961). Such a positive view of self is of great importance to the physically disabled person.

Investigators have shown that the self-image of the handicapped child is frequently a reflection of the social stereotype, or a reaction to it and that rejection produces a sense of inferiority, self-consciousness and fear (Berreman, 1954; Tenny, 1953). Berreman (1954) postulated that aside from perception of the actual physical disability, the individual's eventual self-image is the product of a two-stage mental reflection:

- (1) interpreting suspicion of the sensation in the faces, actions and words of associates, and
- (2) the accumulation of other people's attitudes - both true interpretations and misconstructions (p. 348).

These images are incorporated with the already developed view of self.

Theorists such as Wright (1960) have related the theories of impression formation, phenomenal causality and expectancy to the development of attitudes towards the physically disabled. Although each of these theories varies somewhat, they are alike in that they define attitudes toward the disabled in terms of an equilibrium

between what is expected and what is actually perceived. The unfamiliar, that is to say the perceived disability, disrupts the relationship between the two and causes tension. Thus, the occurrence of the physical disability may influence the expected as well as the actual role for the physically disabled person, since the perceived role will be communicated to the person and, as a consequence, will tend to dictate the behaviour considered to be appropriate.

Following from these theories then, non-disabled persons' attitudes toward physically disabled persons would tend to be influenced by familiarity or contact with them. This would imply that familiarity might modify expectations.

Thus, within the framework of the social-psychological definition of disability, it is possible to view physical disability as a value judgement; that the impact of disability upon the handicapped person and upon society is in large measure determined by society's reaction (attitude) to the disability and hence toward its possessor. Support for such a theoretical position has been posited by Barker, Wright, Meyerson and Gonick, 1953; Dembo, Leviton and Wright, 1956 and Wright, 1960.

Other theorists suggest an added relationship to the value judgements placed on disabled persons by society. It has been argued that qualities such as potential

leadership, good citizenship, possible contribution to the improvement of society, and being an acceptable head of a family are normally associated with the familiar, or non-disabled, and when applied to the unfamiliar, or physically disabled persons, may result in negative attitudes.

Experimental evidence tends to support this contention (Centers and Centers, 1963; Force, 1956; Semmel and Dickenson; Warren and Turner, 1966).

There has also been some evidence (Knittel, 1963; Siller, 1964) to show that educational level is related to attitudes toward disabled persons, as measured by the Attitudes Toward Disabled Persons scale (ATDP). This suggested relationship would seem to be in accordance with studies in social psychology which have consistently found that education correlates highly with the conservative-liberal dimension. The more education people have, the more liberal they tend to be. Relating this to attitudes toward disabled persons, this would seem to mean that the higher the level of education that people have attained, the more liberal they are and therefore the more favorable their attitudes toward physically disabled persons.

However, the relationship between the conservative-liberal dimension and educational level assumes an equivalent developmental level, at least by age, and this is not the case with this present study, as the subjects are of

different developmental levels (and therefore different age levels). Thus, any perceived relationship between the conservative-liberal dimension and educational level in this particular study must be viewed with caution.

In the study of the relationship between attitudes and behaviour, two approaches have been taken. One approach, also the approach taken by this study, observes the relationship between verbally expressed attitudes and past experience of the individual, the assumption being that a particular attitude (positive or negative) held by a person is a function of specific experiences in the past with the object of that attitude. The other approach has as its underlying assumption the view that attitudes are manifested in overt behaviour. Thus the outward behavioural expression of a negative attitude is different from that of a positive attitude. However, this approach in the study of attitudes of non-disabled persons towards disabled persons has been taken very infrequently.

Most research efforts have been designed to study specific determinants of attitudes of non-disabled persons towards disabled persons. Separate studies of educational level and contact (of various types) have found that an increase in either one generally is associated with a more favorable attitude of non-disabled persons towards disabled persons. Both educational level and contact are products of

past experience and since experience of any kind increases with age within the restrictions of any particular society, it would be reasonable to assume that both these factors interact in their influence upon existing attitudes of non-disabled persons towards disabled persons. Specifically, it might be expected that higher educational levels and wider varieties of "experience" would result in more openness or willingness to confront new situations and that more highly educated people would tend to generalize beyond the specific to all or most physically disabled persons.

Therefore, one of the aims of this study was to determine, within a particular sample of a population, whether or not educational level and contact are related to existing attitudes of non-disabled persons toward disabled persons, and examine the possibility of an interaction between the two factors.

The ultimate goal of those who provide services to physically disabled people is to equip them for eventual participation in a society largely composed of physically normal individuals. One of the greatest determinants to the achievement of this objective is the attitudes of individuals within society toward physically disabled people and, therefore, one necessary prerequisite for proper preparation of the physically disabled for integration is a general knowledge and understanding of these attitudes

as they apply to the society of which the physically disabled person is a part.

Since there has been such conflicting evidence as to the nature and determinants of publicly held attitudes toward the physically disabled, a study aimed at further examination would prove extremely useful to those who are employed in the rehabilitation of physically disabled persons. Once identified and understood, such variables may be instrumental in the development of more effective intervention strategies, for example, educational programs to influence public attitude, as well as the modification of existing attitudes.

III. Hypotheses

Since it was the purpose of this study to compare the ATDP (Attitudes Toward Disabled Persons) scores of students of different educational levels with or without having had contact with disabled persons, the following null hypotheses were formulated:

1. There will be no significant difference between mean ATDP scores of students who have had previous contact with physically disabled persons and those who have not had contact with physically disabled persons.

2. There will be no significant difference between mean ATDP scores of junior high school students, senior high school students and second-year university students.
3. There will be no significant differences between mean ATDP scores of students who have had previous contact with physically disabled persons and those who have not had contact with physically disabled persons for either:
 - (a) junior high school students
 - (b) senior high school students
 - (c) second-year university students.

IV. Definitions of Terms

The following are definitions of particular terms used in this study:

1. Attitude: attitude as measured by the Attitudes Toward Disabled Persons (ATDP) scale.
2. Contact: having known and had verbal communication with a physically disabled person.
3. Educational Level: (a) junior high school - grade seven (b) senior high school - grade eleven (c) second-year university - second academic year at Memorial University of Newfoundland.

4. Disability or Handicap: condition of impairment, physical ... having an objective aspect that can usually be described by a physician" (Hamilton, 1950). Most professionals agree that there is a definite difference in the operational definitions of these two terms. However, for the purpose of this study, they will be used interchangeably.

V. Limitations of the Study

The following limitations of the study should be noted:

1. This study was limited to the specific educational levels mentioned earlier: junior high school, senior high school and second-year university. Therefore, the results of this study cannot be reliably generalized to members of the public outside of a similar population.
2. This study's second limitation is again in connection with the sample used. The subjects in both the junior high and senior high educational levels were from an urban center, St. John's, Newfoundland (population, 88,102), whereas the second-year university sample was composed of students who may have come from various smaller communities in the Province of Newfoundland. It would appear, as well, that the university sample would be a self-selected substrata of the population of people of that age, and therefore different from the junior high and senior high samples.

3. One of the main concerns of this study was to determine whether or not contact with physically disabled persons was related to existing attitudes of non-disabled persons toward disabled persons. The problem of agreement by investigators and experimental subjects on a definition, and indeed connotations, of the term "contact" was alluded to earlier and should be kept in mind when interpreting the findings of this study. No attempt was made in the analysis of data to determine whether or not other extenuating factors were involved and therefore any interpretation of the term "contact" other than that specified by this study could prove unreliable.
4. On the basis of possible results obtained in this study, the possibility of sex differences in attitudes of non-disabled persons toward disabled persons was explored. However, sex of subject was not a controlled factor in this study and therefore any discussion of results pertaining to sex of subject should be interpreted with caution.
5. The subjects whose ATDP scores were examined in this study were of three different and increasingly higher educational levels (junior high, senior high, and university). Age, social and intellectual development of these subjects also increase as their educational

level increases and therefore it should be pointed out that these factors could be confounding variables in this study.

CHAPTER II

REVIEW OF THE LITERATURE

There has been a considerable amount of theory and research concerning the area of physical disability, its effects on the disabled and its effects on the non-disabled. This chapter will examine literature relevant to this study.

I. Sources of Attitudes Toward Disability

Some theorists in the area of social psychology and related fields attempt to account for people's perceptions of others by the theories of equilibrium. Basically, these theories postulate that people, objects, and events are generally perceived by a person in terms of familiarity with them and that any deviance from the familiar will be quickly attended to and possibly negatively judged. Thus, attitude may be modified by the mere fact that deviance exists and will be affected by the extent of this deviance.

Heider (1946) recognizes this interplay of perceptual processes and familiarity. According to this theory, the unfamiliar disrupts the relationship between the effect of the disability and its perceived cause, and

this produces tension. Thus, Heider combines potential configurations with the equilibrium mechanisms within the individual to explain the interaction between familiarity and reality.

Festinger (1957) advanced a similar theory, that of cognitive dissonance. According to this theory, discrepancies between cognitive elements (knowledge), or between cognitive and affective (feeling) components produce stress. Thus, the person becomes motivated to reduce this dissonance by changing belief and/or behaviour, which includes avoidance of situations and information which will increase dissonance.

Through experience, we have come to expect certain things in life, one of which is physical normality. Physical normality produces consonance between what is experienced and what is expected - cognitive elements. Visible physical disability, then, results in a discrepancy between the cognitive elements, and possibly the affective elements as well (these might be feelings arising from the situation, such as fear and hostility). As a result, the person who is visibly physically disabled stands a good chance of being rejected by his peers.

Several writers have attempted to directly apply these equilibrium theories to attitudes towards the physically disabled. Wright (1960) in particular, has

used the concept of phenomenal causality in her theory of attribution and the requirement of mourning. According to this theory, as far as the perceiver is concerned, a disability must have a cause, which is usually attributed to misfortune or to the misdeeds of the disabled person. The requirement of mourning implies that the non-disabled expect the disabled to be depressed over the loss of their abilities. Thus, Wright's theory defines attitudes towards the disabled in terms of an equilibrium between the effect of the disability and its attributed cause.

Granskow and Maglione (1965) based their study on Heider's balance theory. They hypothesized that subjects with more familiarity with the disabled would have a more positive attitude as measured by the ATDP. Their hypothesis was supported.

Lindowski, Jacques and Gaier (1969) conducted a study to determine, by means of content analysis, the influence of perceived disabilities on overt behaviour. The results showed that (1) most life areas were perceived as being negatively affected by the disabilities, (2) in the absence of emotional acceptance subjects perceived that severe disability could be constructively dealt with in terms of vocational adjustment, and (3) those who had contact viewed physical disability as a manageable problem, but one which had adverse effects on

the selected life areas of self-respect, independence, and social relationship.

II. Disability as a Value Judgement

There has been some speculation that the disabled hold a similar position in society to that of other minority groups and that this is partly due to the kind of values that are widely held in society today.

Tenny (1953) in his attempt to relate the minority status of the disabled to the minority status of other groups says that: "Prejudice may range from indifference to hostility", and therefore "the limitations imposed by society result in a minority status for the handicapped much like that of racial, nationality and creedal groups" and because of this "a handicap like other differences tends to produce social distance" (p. 260-1).

Allport (1958) studied attitudes towards Negroes and found that individuals having contact with high status Negroes held more positive attitudes toward that ethnic group than individuals having contact with low status Negroes. Since the handicapped can also be viewed as a minority group and are perceived as having high or low status (Tenny, 1953), Allport's findings would appear relevant.

Wright (1960) makes it evident that reactions to something, be it a person, thing, or event may be favorable or unfavorable and that such judgements are made through two distinct psychological processes involving what Dembo (1956) has called comparative values. If the evaluation is based on comparison with a standard, the person is said to be evoking comparative values. On the other hand, if the evaluation arises from "qualities inherent in the object of judgement itself," the person is said to be evoking asset values (p. 131). Dembo points out that when we compare an object with a standard, the characteristics with which we are interested become potent and impose their properties upon our perception and evaluation of other characteristics. Thus,

if physical normalcy is taken as a standard ... and a disability is viewed as far below standard, other vague characteristics and the person himself are regarded as below standard (Dembo, et al. in Wright, 1960, p. 132).

Dembo's work is given theoretical support by Levine (1961) when he says that society views the handicapped in terms of their value to society. He implies that value (worth) is related to

potential for leadership, capability of contributing to the improvement of society, potential for good citizenship, and being an acceptable head of a family. (p. 84).

Levine (1961) says that such valuations of the handicapped, particularly those with highly visible disabilities, often

result in a negative attitude toward the handicapped of our society.

Billings (1963) investigated attitudes of normal children towards crippled peers. His conclusions tend to support those of Tenny (1953) that individuals who differ physically from the majority of people around them have a minority status and as such are subject to the attitudinal dynamics of any minority group.

Warren and Turner (1966) conducted a survey of attitudes towards exceptional children by students planning on entering professions focusing on children and personnel already engaged in those professions. The authors found that generally, the severely retarded was the least preferred, the mildly retarded fell midway, the anti-social was highly ranked and so was the academically talented.

Thus it seems possible to view physical disability as a value judgement. As Barker, et al. (1953) say:

The meaning of disabled physique to the disabled person himself, and to others who interact with him, will depend in general upon the values of the cultural group to which he belongs (p. 67).

It would seem reasonable to assume that knowledge of such existing attitudes might prove helpful in attempting to produce desirable attitudes toward disabled persons or to modify those which already exist.

III. Self-Concept

The development of a self-concept is considered essential in the individual's adjustment to himself and to the relationship between himself and his environment, and there is also general agreement among social psychologists that a favorable self-concept is necessary for good mental health (Coopersmith, 1967; Mead, 1934; Wylie, 1961).

Coopersmith (1967) says that one's self-esteem, or personal judgement of one's own worth, is "significantly associated with personal satisfaction and effective functioning" (p. 3). He also goes on to say that "attitudes towards the self, like other attitudes, carry affective loadings and motivational consequences" (p. 7). According to various theorists, one's self-concept is partly determined by how others perceive him as well as how he thinks others perceive him. Coopersmith summarised Mead's work (1934) concerning the socialization process, by saying that the individual internalises the ideas and attitudes expressed by key figures in his life - observing, adopting and expressing them as his own. This holds true for attitudes towards oneself as well as external objects. From Mead, it can be concluded that self-esteem is largely derived from the reflected appraisal of others.

Berreman (1954) suggests that the self-image of the handicapped child is frequently a reflection of the social

stereotypes, or a reaction to them.

Kyaraceus (1956) in a discussion on acceptance, rejection, and exceptionality says:

some exceptional children because of their marked differences and abnormalities have always run the risk of rejection in a culture which places heavy emphasis on cosmetics and conformity. Secondary handicaps may emanate from a feeling of rejection can prove more harmful and crippling than the factor of exceptionality itself (p. 328).

Wright (1960) gives theoretical support by saying:

There is good reason to believe that at least in many if not in all instances, new self attitudes are integrated within old ones either by modifying the meaning of the former or the latter or both (p. 141).

Cutter (1961) supports this view:

It is within the framework of the varied relationships of a young child that he differentiates himself as an individual, develops a physical precept of himself (body image) and a psychological image (self-concept) (p. 344).

Wylie (1961) in a discussion of self-concept and its relation to interaction with others concludes:

The self-concept is a learned constellation of perceptions, cognitions and values

and

an important part of this learning comes from discerning the reactions one gets from other persons (p. 121).

IV. Variables Affecting Attitudes Toward Disability

Accepting the proposition that the degree to which a disability handicaps an individual is to a large measure determined by societal values, there seems to be a number of factors which appear to be related to society's reaction to disability. Two of these factors are:

- (1) contact with the disabled person, and
- (2) educational level of the non-disabled person.

Contact

It should be noted that the authors of the following pieces of theoretical and empirical evidence, presented in support of contact with disabled persons as being one of the major determining factors in establishing the attitudes of non-disabled persons toward disabled persons, have in many cases applied different interpretations to the term "contact".

Homans (1950) suggested that the frequency of contact between individuals or groups is related to attitudes towards these individuals or groups in a positive direction. He also observed that minimal contact resulted in neutral or negative attitudes (p. 112).

In keeping with Tenny's position (1953) that the handicapped can be viewed as a minority group, other statements made by Allport (1958) may be applied to this situation:

.. the trend of evidence favors the conclusion that knowledge about and acquaintance with members of minority groups make for tolerant and friendly attitudes. The relationship is by no means perfect; nor is it clear whether the knowledge causes the friendliness, or whether friendliness invites the acquiring of knowledge. But that there is some positive relationship is evident (p. 254)

and,

~~Contacts that bring knowledge and acquaintance are likely to engender sounder beliefs concerning minority groups, and for this reason contribute to the reduction of prejudice (p. 255).~~

Roeher (1959) used a five-point Likert scale of attitudes towards the physically disabled similar to the ATDP. He found significant differences between three groups of subjects having minimal, medium or maximal contact with disabled persons. The least positive attitudes were found in the minimal contact group and the most positive attitudes were found in the maximal contact group ($p < .05$).

West (1962) indicated that exposure to children with visual problems tended to result in positive change in the attitudes towards the visually handicapped held by normal peers.

Arnholter (1963) administered the ATDP to a selected population of disabled workers, non-disabled workers, staff and professionals working with disabled and non-disabled. He found that workers with disabled persons

were more accepting of disability than workers with the non-disabled. Also the ATDP scores were positively related to the amount of contact with the disabled.

Siller (1963) found that specific experiences with the disabled are highly influential in conditioning attitudes toward a particular disability. Also, there was an indication that aversive reactions persist despite intellectualized awareness of their defensive nature. Repeatedly, subjects commented that once into a relationship with a disabled person, they are much more comfortable and that earlier, averse feelings often become more positive.

Despite all the evidence which suggests that general public attitudes towards the disabled are positive and that this positive attitude has exposure to the disabled as its source, there is some contradictory evidence:

Granofsky (1956) attempted to determine the best method of modification of attitudes towards the visibly disabled. In a "before and after" experiment, a group of non-disabled women who had not had any experience with the physically disabled were exposed to a period of approximately eight hours of social contact with visibly disabled veterans. The study indicated that attitudes towards the physically disabled are highly resistant to change, specifically with respect to the social contact variable.

Whiteside (1960), in an attempt to determine if children in a school who had experience with handicapped children showed a greater degree of acceptance of disability than children who did not have this experience, used pictures of children with various disabilities and a checklist, "Feelings About Other Children". He concluded from his results that there was no significant difference in the expressed attitudes of children with experience with the handicapped, from children without such experience.

Masson (1963) also reports that the expression of attitudes toward the disabled by the non-handicapped tends to be generally unfavorable. Such contradictory evidence indicates that both type of contact and extent of contact are important in understanding the relationship between contact and attitudes, possibly because of the major problem of defining the term "contact" and other forms of "past experience".

Educational Level

The relationship of age to attitude is very complex. Studies have indicated that attitude formation and attitude change are more closely related to exposure and experience rather than to age alone. Also, the nature of the samples in studies that have reported a significant difference between age and attitude toward disability,

have often indicated that the age factor is confounded with factors of educational level and contact.

Studies attempting to relate educational level to attitudes towards disability tend to fall in two categories:

- (1) those whose subjects are currently students
- (2) those whose subjects have completed their formal education.

Knittel (1963) had four groups in his study: junior high students (grades 7-9) with a disabled sibling and without a disabled sibling, and senior high students (grades 10-12) with a disabled sibling and without a disabled sibling. Among subjects with no disabled sibling, he found that junior high school students showed a more positive attitude toward disabled persons, as measured by the ATDP-0. A reversal was obtained in these findings among subjects with a disabled sibling. Knittel found that senior high school students showed a more positive attitude toward disabled persons than junior high school students.

Auenshire (1962), using his Attitudes Toward Severely Disabled College Students scale with a sample of 316 college students, found that freshmen and sophomore males were less accepting than juniors, seniors or graduate students.

Siller (1964) found that college students had more favorable attitudes on the ATDP-0 than either junior high school students or senior high school students, and that the junior high students were more accepting than senior high students.

Horowitz, Rees and Horowitz (1965), using a simpler measure, found that older grade levels rated the deaf on personal and achievement characteristics more realistically and knowledgeably when three grade levels (sixth graders, high school, college undergraduates and college graduates) were compared.

Lamers (1965) found that college freshmen tended to be more accepting than college sophomores on the ATDP-1, but he did not report any data or significant levels.

These studies have utilized subjects who are presently students. If completed formal education level and its effect on the attitudes towards disabled persons is examined, similar results may be found.

Roether (1959), using a Likert scale of attitudes towards the disabled similar to the ATDP, found that individuals whose occupations demanded higher levels of education were significantly more accepting than those whose occupations demanded lower levels of education on a sample of 300 Canadian adults.

Lukoff and Whiteman (1963), using the Attitudes to Blindness Scale, reported that level of education has correlated positively with positive attitudes on the subscale index measuring attitudes toward the integration of blind people in sighted activities and settings.

Summary

As a whole, then, studies tend to support the hypothesis that there is a positive relationship between educational level and attitudes towards disabled persons.

With the exception of Knittel (1963), none of the above studies pertaining to either contact or educational level have attempted to relate these two factors to each other in their effects upon attitudes of non-disabled persons towards physically disabled persons. Knittel's study involved subjects of varying educational levels, somewhat similar to the educational levels examined in this present study, and his subjects were also members of one or two groups - those who had had contact with disabled persons and those who had not been exposed to such contact. Knittel, however, dealt only with one type of contact between his subjects and disabled persons - that of sibling relationships. This makes it theoretically impossible to generalize from the results of his study to other samples or populations whose contact experiences may have been other than sibling relationships, which in itself is a select type of relationship.

Therefore, a study aimed at examining the possibility of an interaction between contact and educational level might provide more information as to the combination of factors that are related to measured attitudes of non-disabled persons toward disabled persons in general.

CHAPTER III

DESIGN OF THE STUDY

This chapter sets forth the methods and procedures used to test the three general hypotheses of the study. Separate sections deal with general procedures, sampling, instrumentation, data collection procedures, and the methods used to analyze the data.

I. General Procedures

This study employed a post hoc, two-factor design. The two independent variables were contact, whether or not the subjects had previously experienced encounters with physically disabled persons, and educational level, which consisted of three levels: junior high school, senior high school, and second-year university. The dependent variable was the score obtained by subjects in the three educational levels on the Attitude Toward Disabled Persons scale (ATDP). The subjects in this study were administered the ATDP to determine their expressed attitude toward physically disabled persons, to determine the relationship of previous contact, and educational level to their expressed attitudes, and to

examine the possibility of an interaction existing between contact and educational level and its relationship to their expressed attitudes.

II. Sampling

Procedures

The school populations dealt with were under the jurisdiction of two separate school systems, one of which was not coeducational, and although the literature was not conclusive about sex differences being related to the attitude of non-disabled persons toward disabled persons, some studies found that females respond more favorably than males to disabled persons (Fischbein, 1964; Siller, 1964; and Maglione, 1965). Thus, a chi-square statistic for goodness-of-fit was performed to determine whether or not the samples selected from both grade levels of both school systems were truly representative.

It was found that the sample obtained from the coeducational population was not biased with respect to the number of males and females expected. However, within the sample from the non-coeducational population, it was found that the ratio of males to females was larger than in the total population.

These results were not satisfactory, and, since it was the intention of the investigator to obtain a sample

of students that were representative of the total population with regards to sex of subject, the following procedure was taken: male subjects were randomly deleted from the non-coeducational sample, according to a table of random numbers (Roscoe, 1969, p. 286-287), until the desired proportion was obtained. The results of this procedure are presented in Table 1.

TABLE 1

Percentages of Males and Females Under Both School Systems
and in Samples

Level	Males				Females				x ²	df	p
	O	%	%	E	O	%	%	E			
Grade Seven	155	.58	.52	141.96	118	.42	.48	131.04	2.4	1	<.01
Grade Eleven	116	.43	.47	125.96	152	.57	.53	142.04	1.49	1	<.01

The chi-square statistic for goodness-of-fit, to determine if the obtained proportion of males to females was representative of the expected proportion of males to females was not performed on the MUN sample, because the investigator assumed that sex of subject would be randomly represented in the population of university students.

However, since the investigator was dependent upon the cooperation of the various instructors for permission

to administer the ATDP in their classes, the following procedure was taken in an effort to obtain a representative sample of the total population of second-year university students according to the faculty in which they were registered. A list of major faculties within the university was obtained and it was found that these were: the faculties of arts, commerce, education, engineering, nursing, physical education, science and social work. A record of second-year courses was then reviewed and an attempt was made to select those courses in which the student enrollment was representative of the major faculties. The instructors of the selected courses were then contacted to obtain permission to have the questionnaires administered in their classes. At no time was permission refused. Table 2 presents the number of students in each faculty who were administered the ATDP in this study.

TABLE 2

Number of University Students in each Major Faculty

Faculty	Number	% of Total
Arts	7	5.0
Commerce	19	12.0
Education	25	16.0
Engineering	16	10.0
Nursing	15	10.0
Physical Education	18	12.0
Science	7	5.0
Social Work	6	3.0
Unknown	42	27.0
	<u>155</u>	<u>100.0</u>

Description of the Sample

The final sample of 696 subjects included 273 grade seven students, 268 grade eleven students, and 155 second-year university students. As can be seen from Table 1, there were more males than females in grade seven, and more females than males in grade eleven. This, however, was proportionate to the actual number of males and females attending schools operated by both school

systems.

Table 2 presents the number of university students from each major faculty within the sample and the percentages of the total university sample that each faculty represented. Since 42 of the 155 students did not indicate the faculty with which they were associated, no statistical analysis was performed on this data to determine whether or not the sample was representative of the total population of university students registered in each faculty.

When the data from all three samples had been collected, it was separated into two groups: the contact group, consisting of those subjects who had experienced previous contact with physically disabled persons, and the no-contact group, those subjects who had experienced no such contact. A cross-tabulation of level, sex, and contact was performed by computer, in order to enable further description of the samples. Table 3(a) and Table 3(b) present summaries of this information:

TABLE 3(a)

Cross-tabulation of Level and Sex for
Subjects Having Experienced Contact

Sex	University	Level		Total
		Eleven	Seven	
Female	64	92	86	242
% of Total	13.0	19.0	18.0	51.0
Male	56	87	91	234
% of Total	12.0	18.0	19.0	49.0
	120	179	177	476
	25.0	38.0	37.0	100.0

TABLE 3(b)

Cross-tabulation of Level and Sex for
Subjects Having Experienced No Contact

Sex	University	Level		Total
		Eleven	Seven	
Female	11	60	32	103
% of Total	5.0	27.0	15.0	47.0
Male	23	29	64	116
% of Total	11.0	13.0	29.0	52.0
	34	89	96	219
	16.0	41.0	44.0	100.0

Note: There was one missing observation from this data.

Demographic Data on all Subjects

Although the major independent variables examined in this study were contact and educational level, other information was obtained on each subject. This information has been summarized in Table 4. Thus it can be seen that the average age of the grade seven students, the grade eleven students and the second-year university students was 12 years, 16.3 years, and 18.6 years, respectively. The average number of siblings of these three groups were 3.87, 4.26, and 6.83, respectively. It was also found that males constituted 56.8%, 43.2% and 50.9% of grade seven, grade eleven and university, respectively and that females constituted 43.2%, 56.8% and 49.1% of the same three groups.

TABLE 4

Demographic Data on Subjects in each Educational Level

Sample	Average Age	Average No. of Siblings	% of Males	% of Females
Grade Seven N=273	12	3.87	56.8	43.2
Grade Eleven N=268	16.3	4.26	43.2	56.8
University N=155	18.6	6.83	50.9	49.1

Note: There was one missing observation from this data.

III. Instrumentation

Data was gathered by means of the Attitude Toward Disabled Persons scale and a questionnaire devised by the investigator, which are contained in Appendices A and B.

Attitudes Toward Disabled Persons (ATDP) Scale

The ATDP was selected to measure the attitudes of subjects in the study toward disabled persons. The ATDP is an objective, Likert-type scale, the wording of which refers to disabled persons in general. This Scale has three forms, Form O, the original form consisting of 20 items, and Forms A and B, both of which are alternate forms consisting of 30 items each. Subjects are asked to respond to relatively short statements about the disabled by expressing agreement or disagreement on a six-point scale. The scale has no neutral or zero point. Thus the subject is forced to make a positive or negative response. A high score on the ATDP indicates a favorable attitude towards disabled persons and a low ATDP score indicates a less favorable attitude towards disabled persons. Form B of the ATDP was used in this study.

Development of the ATDP. The ATDP, Form O, was designed by Yuker, Block and Campbell (1960) to measure expressed attitudes towards disabled people, however, they later felt that the reliability and possibly the validity of the Scale could be improved by increasing its length. Consequently, in 1962, Forms A and B were developed and these new forms have been used in subsequent research.

Underlying the rationale for the ATDP is the assumption that there are at least two views held in North American culture toward the physically disabled. One is that the disabled person is "different" from the non-disabled person, suggesting that the disabling effects of the handicapped person pervade the total personality and somehow influence certain characteristics which are separate from the disability. The other is that although the disabled person may be limited in certain aspects of his functioning, in general he does not differ significantly from the non-disabled.

Reliability of the ATDP. There have been many studies on disabled and non-disabled persons, in which the reliability of the ATDP has been reported. These reports have made use of three major approaches to reliability: stability, equivalence, and stability equivalence. The

following is a summary of the findings which directly concern Form B of the ATDP. Each of these studies were conducted by the Human Resources Center (HRC) in which the ATDP-Form B was administered to non-disabled persons. Each study accepted the .01 level of significance.

Making use of the stability (test-retest) method, there are two studies in 1962: the first one tested 28 people with a time interval of four months, yielded a correlation coefficient of 0.71; the second one tested 81 people with a time interval of five weeks, yielded a coefficient of 0.83.

The equivalence approach to reliability can take two forms; split-half and immediate parallel. Five studies were conducted using the split-half method. Three of these were performed in 1962. They tested 50 people, 42 people, and 57 people and yielded correlation coefficients of 0.79, 0.72, and 0.84, respectively. Two studies were performed in 1964. They tested 139 people and 50 people and yielded correlation coefficients of 0.81 and 0.80, respectively.

In 1962, five studies were conducted using the immediate parallel method. The first three studies correlated Forms O and B of the ATDP using 81 people, 40 people and 40 people and yielded correlation coefficients of 0.57, 0.76, and 0.77, respectively. The other two

correlated Forms A and B of the ATDP and tested 84 people and 57 people. They yielded correlation coefficients of 0.72 and 0.83, respectively.

Finally, in 1962, four studies were conducted using the stability-equivalence method. One study correlated Forms O and B and the ATDP using 81 people over a time interval of six weeks. It yielded a correlation coefficient of 0.83. The other three studies correlated Forms A and B of the ATDP. They tested 58 people, 40 people, and 31 people over six weeks, five months and 5 months, yielding correlation coefficients of 0.41, 0.73, and 0.76, respectively.

In conclusion, there seems to be reasonably good evidence that the ATDP-Form B is a reliable scale for the measurement of those attitudes for which it was intended.

Validity of the ATDP. There have been several studies of disabled persons' and non-disabled persons' scores on the three forms of the ATDP reported in connection with the validity of the ATDP. Such evidence has been based largely on construct validity, however, some studies have been based on predictive validity. Only the evidence concerning Form B of the ATDP and non-disabled subjects is presented here. It is felt by the

investigator that, at this point, the original assumption of the authors of the ATDP should be emphasized. The administration of the ATDP to non-disabled persons would provide a measure of

their attitudes toward disabled people viewed as a group. The non-disabled respondent would not identify with the disabled, but would use the group as a frame of reference (Yuker, Block, and Young, 1970, p. 34).

Thus, scores on the ATDP could be interpreted in terms of acceptance or prejudice toward disabled persons.

Since the ATDP measures attitudes, it would be expected that scores on the ATDP would be related to scores on other similar attitude scales. Therefore, to the extent that such correlations are in predicted directions and depending on the degree to which the response format of the two measures are similar, they can be interpreted as evidence for the validity of the ATDP. Szuhay (1961) conducted a study on 25 persons and found a significant correlation ($p < .05$) of $-.66$ between the ATDP-B and the Adult Attitudes Toward the Physically Disabled Scale (AATPDS). The negative correlation was attributed to differences in scoring procedures.

Kaiser and Moosbrucker (1960) studied the relationship between the ATDP scores of 24 subjects and their responses on a psychogalvanometer (GSR), while they viewed photographs of disabled people. These subjects

had ranked 1 or more standard deviations above or below the mean ATDP scores of 236 subjects ($p < .001$). The difference between the GSR base score of the high ATDP group and the low ATDP group was significant at the .01 level. Kaiser and Mossbrucker felt that their findings added to the construct validity of the ATDP.

On the assumption that motivational factors are related to attitudes toward the disabled, and that non-disabled persons' attitudes toward the disabled would be different from disabled persons' attitudes toward the disabled, several motivational variables have been studied by investigators using the ATDP. In most cases, these motives have been based on Murray's (Murray, 1938) discussion of psychogenic needs. Of those motives studied, only two resulted in significant correlations when related to attitudes toward disabled persons. The Human Resources Center, in 1962, conducted a study on 66 college students and found a correlation of $-.21$ between scores on the ATDP-B and aggression scores on the Edwards Personal Preference Scale (EPPS). This was not a significant correlation, but it was in the predicted direction.

In the same study (HRC, 1962) there was found a correlation of $+.25$ ($p < .05$) between scores on the ATDP-B and intrarception scores on the EPPS. Intrarception

reflects ratings of oneself as insightful with regards to self and others; therefore, a desire for understanding others might be a requisite to positive attitudes toward disabled persons.

Kramer (1965) in a study of 50 people, which measured social distance, found that non-disabled subjects placed pictures of disabled persons significantly further away from themselves than pictures of non-disabled persons. Scores on the ATDP-B were correlated with variability of distance settings of "disabled" subjects with a correlation of $-.30$ ($p < .05$).

Physically disabled persons can be viewed as one segment of a larger group of persons with several different kinds of disability. The HRC (1962) studied 50 college students correlating their ATDP-B scores with their scores on the Attitudes Toward Old People (ATDP) scale. The correlation coefficient yielded was $t.27$, not significant, but in the predicted direction.

It is also conceivable that attitudes toward the physically disabled are part of a "larger constellation of attitudes toward persons who are different in any way" (Yuker, Block and Young, 1970). Lamers (1965) in a study of 116 college students, found a correlation of $-.21$ ($p < .05$) between scores on the ATDP-B and scores on the California F scale of Authoritarianism, which is thought

to be related to measures of general and specific prejudices.

Yuker, Block and Youngg (1970) in their extensive review of personality correlates of the ATDP state that:

there is substantial evidence that attitudes of non-disabled persons toward disabled persons are positively related to the personality factors of self-concept, personality adjustment, and security (p. 64),

although they recognize that the measures used to correlate these factors are diverse and that their inter-correlations are not known. Thus, it is suggested that persons who feel confident and secure in their conception of themselves in relation to others will tend to be more positive and accepting in their attitudes toward disabled persons. HRC, in 1962, using the Semantic Differential Rating Scale for Assessing Stability of Self-Concept, correlated 81 college students' scores on that scale with their scores on the ATDP-B. A correlation coefficient of $r = .27$ ($p < .05$) was found.

In conclusion, it would seem from the above that it is very difficult to establish the validity of the ATDP, when many of the "criterion measures" appear to be different in format and scoring procedures, and that the dependent variables of many studies sometimes reflect the interaction of a number of variables. Thus, establishing

a high correlation coefficient between ATDP-B scores and other measures does not necessarily establish the validity of the instrument.

Shaw and Wright (1967) assert in their review of many attitude scales that the ATDP has better supporting data than most scales, and despite some questions concerning the validity, the scale is adequate for research purposes.

Rationale for the use of the ATDP scale in this study. The following factors influenced the investigator's choice of the ATDP for use in this study:

1. its intended use as a research instrument, particularly for use in motivational research dealing with physical disability and the many variables which might be involved.
2. the Scale was intended to be one which could be used with both disabled and non-disabled persons.
3. its intended use as an instrument measuring generalized attitudes toward the physically disabled and not toward persons with specific disabilities.
4. the ATDP does not require a skilled administrator and interpreter; therefore it is less expensive and time consuming.

Questionnaire. A questionnaire was devised to measure demographic information about the subjects, such as age, sex, number of siblings, educational level, and school or faculty; also, general information on whether or not the subjects had any previous contact with physically disabled persons, the number of contacts that they experienced, if any, and how often these encounters occurred.

IV. Data Collection Procedures

Administration Schedule

The investigator, having received written permission from both school systems for St. John's, contacted the school counselor or principal of twelve different schools in an effort to obtain permission to administer, as well as requesting their aid in the administration of the ATDP and the questionnaire. The school counselor or home-room teachers of particular classes administered the two instruments to students in the schools.

Professors and instructors of selected courses offered at Memorial University of Newfoundland were contacted in order to obtain permission to administer the instruments in their classes. The investigator hired three second-year university students to administer the

instruments to the university sample.

The subjects were asked to respond to the two instruments, which were given in the following order: the Attitudes Toward Disabled Persons scale, and then the questionnaire. The data for the study was collected over a period of four months.

Administration Policy

Attempts were made to have all subjects of the samples participate in the study; however, no student was required to respond to the instruments. In the case of the school samples, the investigator, through the cooperation of the school counselors and home-room teachers, informed the parents that the study was being conducted and that if they objected to their children participating in the study, they should immediately contact the teacher. All students were told that the information would be used for research purposes only. Code numbers were used for identification purposes, with individual students remaining anonymous to the investigator. The students were further advised that there were no right or wrong answers and they should answer all questions.

V. Methods of Analysis

In testing the three general hypotheses of this study the major statistic used was the two-way Analysis of Variance (ANOVA), for a fixed effects model. However, the results of the ANOVA warranted the use of a statistic to determine which sample means differed significantly from each other.

Hypothesis One

ANOVA was the statistical model chosen for testing the first hypothesis dealing with the comparisons of the group means of the ATDP. In testing this hypothesis, comparisons were made of the ATDP mean raw scores between students who had previous contact with physically disabled persons and those who had no such previous contact.

Hypothesis Two

Hypothesis One was also tested by means of ANOVA. In testing this hypothesis, comparisons were made of the ATDP mean raw scores between students of the three educational levels: junior high school, senior high school, and second-year university.

Hypothesis Three

Hypothesis Three was also tested by means of ANOVA to determine whether or not interaction effects existed between the two independent variables, educational level and contact, upon the dependent variable, attitudes of non-disabled persons towards physically disabled persons, as measured by the ATDP.

Even though ANOVA has the power to reject the over-all hypothesis of equal means from two or more groups, it does not have the power to determine which group mean differs significantly from the other. Therefore, it was decided that the Sheffe procedure for testing all possible comparisons between means would be the best statistic to use, in addition to ANOVA. According to Roscoe (1969), the Sheffe procedure has the important property that:

the probability of a Type I error for any comparison does not exceed the level of significance specified in the analysis of variance for the over-all hypothesis (p. 239-240)

and

... [the Sheffé] is quite insensitive to departures from normality and homogeneity of variances (p. 240).

Decision Rules

Throughout the study, the null hypothesis was rejected at the .05 level of confidence.

CHAPTER IV

STATISTICAL ANALYSIS OF DATA

The first statistical procedure performed on the data was a two-factor analysis of variance (ANOVA). Examination of results obtained from this analysis revealed that there was a significant relationship between the independent variables (the educational level of the subjects and previous contact with physically disabled persons) and the dependent variable (the expressed attitudes of non-disabled persons towards physically disabled persons, as measured by their scores on the ATDP). For reasons outlined in Chapter III, the investigator chose the Sheffé test for making all possible comparisons between means in an effort to determine which group means were significantly different from each other. Since no more than two group means were tested by the Sheffé procedure at any one time, this test can be considered mathematically equivalent to the t-test (Roscoe, p. 239).

In addition to ANOVA, Sheffé tests were performed on the data. The specific results of each of these statistical procedures are described together with respect to each hypothesis.

The total group means of the ATDP scores for each level of the two independent variables (educational level and contact) and the six group mean ATDP scores for each of the six experimental groups in the study were obtained through the ANOVA procedure. These group means are presented in Table 5.

TABLE 5

Summary of Group Means

Contact	Educational Level							
	Junior High (grade 7)		Senior High (grade 11)		University (2nd year)		Total	
	mean	N	mean	N	mean	N	mean	N
Contact	106.34	177	114.70	179	119.40	121	112.79	477
No Contact	101.13	96	115.21	89	107.29	34	107.81	219
Total	104.5	273	114.8	268	117.6	155		696

Table 6 presents a summary of the results obtained by the ANOVA procedure:

TABLE 6

Summary Analysis of Variance (Two-way)

Source	SS	df	ms	F	P
Educational Level	12520.35	2	6260.17	14.337	0.000
Contact	4001.62	1	4001.62	9.165	0.003
Interaction	3395.80	2	1697.90	3.889	0.021
Within	301277.0	690	436.6		

Hypothesis One

There will be no significant difference between the mean ATDP scores of students who have had contact with physically disabled persons and those who have not had contact with physically disabled persons.

The mean ATDP score of the contact group and the no-contact group were 112.7 and 107.8, respectively (Table 5). The difference between these two total group means was statistically significant at the .05 level (Table 6). These results indicated that subjects who reported contact with physically disabled persons scored higher on the ATDP and therefore held different attitudes towards physically

disabled persons than subjects who had not had such contact. The contact group appeared to have more positive attitudes than the no-contact group. These findings reject null Hypothesis One.

Hypothesis Two

There will be no significant difference between mean ATDP scores of junior high (grade seven) students, senior high (grade eleven) students and second-year university students.

The mean ATDP scores of grades seven, eleven and university were 104.5, 114.8 and 117.6, respectively, as shown in Table 5. As can be seen in Table 6 (Summary of ANOVA), these means differed significantly at the .05 level of confidence. This indicated that educational level was related to the obtained ATDP scores of the subjects.

Sheffé tests for comparisons of group means of the three educational levels were performed. The results of these, along with the results of the other Sheffé comparisons are presented in Table 7.

A comparison between the means of grade seven and grade eleven, and grade seven and university were significantly different at the 0.05 level. Grade eleven subjects scored significantly higher on the ATDP than grade seven subjects, and university subjects scored significantly higher than grade seven subjects. There was, however, no significant statistical difference between the mean ATDP

TABLE 7

Summary of Sheffés

Variable Combination	df=K-1, N-K	F
grades seven and eleven	2, 693	17.3**
grade eleven and university	2, 693	0.89
grade seven and university	2, 693	21.8**
grade seven, contact and no contact	1, 271	3.87*
grade eleven, contact and no contact	1, 266	0.35
university, contact and no contact	1, 153	9.2**
no contact, grades seven and eleven	2, 216	10.8**
no contact, grade seven and university	2, 216	1.09
no contact, grade eleven and university	2, 216	1.8
contact, grades seven and eleven	2, 474	8.08**
contact, grade seven and university	2, 474	15.1**
contact, grade eleven and university	2, 474	1.06

* significant at the .05 level

** significant at the .01 level

scores of the grade eleven subjects and university subjects indicating that university students and grade eleven students had similar attitudes towards physically disabled persons but that their attitudes were more positive than those of the grade seven students.

Thus it can be seen that the significant difference obtained by ANOVA between the mean ATDP scores of the three educational levels was contributed to by the significant difference between the group means of grade seven and grade eleven subjects, and grade seven and university subjects. These findings reject null Hypothesis Two.

Hypothesis Three

There will be no significant difference between the mean ATDP scores of students who have had previous contact with physically disabled persons and those who have not had contact with physically disabled persons for either:

- (a) junior high school (grade seven) students
- (b) senior high school (grade eleven) students
- (c) second-year university students.

Essentially, null Hypothesis Three postulated that there would be no interaction between the two independent variables in their relationship to the dependent variable. The results of the ANOVA procedure rejected null Hypothesis Three, allowing the conclusion that there was an interaction between educational level and contact at the 0.05 level of

significance (Table 6). This interaction effect is depicted in Figure 1.

From this it can be seen that the contact group, in general, scored higher on the ATDP than the no-contact group; that grade eleven subjects and second-year university subjects tend to be similar in their attitudes towards physically disabled persons; and that the grade eleven and university subjects are different from the grade seven subjects in their attitudes towards physically disabled persons.

Comparisons of Junior High Subjects with Senior High Subjects

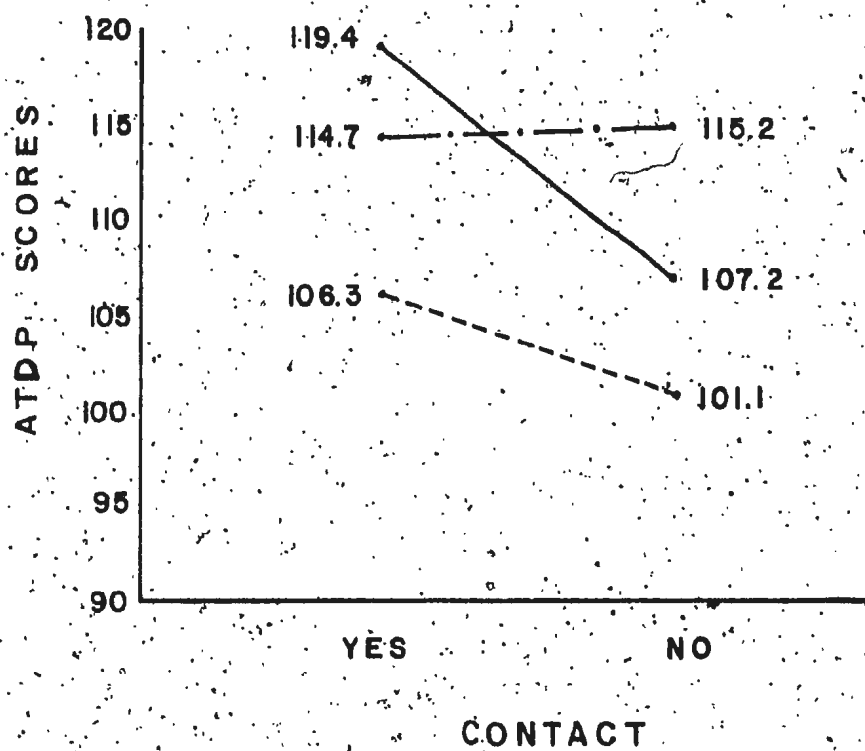
As shown in Table 5, the mean ATDP scores for the grade seven contact and no-contact groups were 106.3 and 101.1, respectively. This difference was significant at the 0.05 level of confidence and indicated that in grade seven, subjects who had previous contact with physically disabled persons held more positive attitudes towards physically disabled persons than those who had not experienced such contact.

The mean ATDP scores for the grade eleven contact and no-contact groups were 114.9 and 115.2, respectively. The Sheffé comparison between these two means determined that the difference obtained was not statistically significant, indicating that there was no difference in attitudes toward physically disabled persons between

Figure 1

Obtained Interaction Between
Educational Level and Contact

FIGURE 1

KEY

----- Grade Seven
..... Grade Eleven
_____ University

senior high (grade eleven) subjects who had previous contact with physically disabled persons and those who had not had contact.

However, the Sheffé comparison of mean ATDP scores of the grade seven contact group and the grade eleven contact group yielded a significant difference at the 0.05 level of confidence. The mean ATDP score of the grade eleven contact group was higher than that of the grade seven contact group. This same relationship was obtained by the comparison of mean ATDP scores of the grade seven no-contact group and the grade eleven no-contact group. Such findings indicate that as educational level increases from junior high (grade seven) to senior high (grade eleven), expressed attitude becomes more favorable towards physically disabled persons of subjects who have experienced contact with physically disabled persons and those who have not.

Comparisons of Senior High Subjects with University Subjects

The mean ATDP scores for the university contact and no-contact groups were 119.4 and 107.2, respectively (Table 5). This difference was significant at the 0.05 level of confidence, indicating that in second-year university, subjects who had previous contact with physically disabled persons held more positive, or

favorable, attitudes towards physically disabled persons than those who had not experienced such contact (Table 7).

As can be seen in Table 7, the Sheffé comparison of means showed that there was no significant statistical difference between the ATDP scores of the grade eleven contact group and the university contact group, nor was there a significant statistical difference between the mean ATDP scores of the grade eleven no-contact group and the university no-contact group. These results support those obtained in the analysis of null Hypothesis Two - that there was no significant difference between the total group means of grade eleven and second-year university. Such findings indicate that there is no real difference between grade eleven subjects and second-year university subjects, with regards to measured attitudes toward physically disabled persons.

Comparisons of Junior High Subjects with University

Subjects

The mean ATDP scores for the grade seven contact and the university contact groups were 106.3 and 119.4, respectively. This difference was significant at the 0.05 level, with the mean ATDP score of the university contact group being higher than the mean of the grade seven contact group. This supports the results obtained in a

previous analysis in which a significant difference was found between the mean ATDP scores of the grade seven and the grade eleven contact groups, indicating that attitudes of non-disabled subjects toward physically disabled persons are related to increases in educational level. It also relates to the suggestion made earlier, that there appears to be no difference, on the whole, between attitudes toward physically disabled persons of students in grade eleven and students in second-year university.

The mean ATDP scores for the grade seven no-contact and university no-contact groups were 101.1 and 107.2, respectively. This difference was not statistically significant.

Summary of Analyses

The two-factor analysis of variance performed as part of the data analyses showed that there were separate main effects due to contact and to educational level related to the measured attitude towards disabled persons. The analysis showed that there was an interaction between these two independent variables. Such a finding suggested that the effects of educational level were not constant for either the contact group or the no-contact group; and that the effects of contact with disabled persons were not constant for either the junior high, the senior high or

the university groups.

Comparisons between the mean ATDP scores of the contact group and the no-contact group for the three educational levels showed that for grade seven and university subjects having had previous contact with physically disabled persons resulted in non-disabled subjects obtaining a higher ATDP score and thus a more favorable attitude toward physically disabled persons. For the grade eleven subjects there was no significant difference between the mean ATDP scores of the contact and no-contact group. This may be the result of the particular sample selected.

Comparisons between the mean ATDP scores of the three educational levels for both the contact and the no-contact groups revealed that for grades seven and eleven, the higher the educational level of the non-disabled subjects, the higher their ATDP scores, and thus the more favorable their attitudes towards physically disabled persons. However, there was no statistical significant difference in mean ATDP scores between the grade eleven and university contact groups, nor was there any statistical significant difference in the mean ATDP scores between the grade eleven and university no-contact groups. These findings indicate that there is no difference in expressed attitude toward physically disabled persons between subjects in grade eleven and subjects in university. This may be explained

by the possibility that the approximate two-year span in educational level is not wide enough to result in an observable difference in attitudes. This discrepancy may also be explained by the possibility of a Type II error. In addition, the mean ATDP score of the university no-contact group was not significantly higher than that of the grade seven no-contact group.

The Relationship of Subjects' Sex to Measured Attitudes Toward Physically Disabled Persons

There has been some controversy as to whether or not differences exist between the sexes with regards to their measured attitudes toward disabled persons (Fischbein, 1962; Knittel, 1963; Maglione, 1965; Yaker, et al., 1960). Therefore, it was decided that this possibility should be explored in an attempt to offer further explanation for the difference in mean ATDP scores between the various experimental groups. Sex of subject was not a controlled factor in this particular study, therefore any results and discussion pertaining to sex of subject should be interpreted with caution. The investigator did, however, attempt to insure that the grade seven and grade eleven samples were representative of the total population of grade seven and grade eleven, with respect to number of males and females. This insurance was not possible with the university sample, largely due to administration problems (Chapter III).

A one-way analysis of variance was performed to determine whether or not sex of subject had any relationship to measured attitudes toward physically disabled persons. The mean ATDP scores of the 350 males was 106.4, and the mean ATDP score of the 345 females was 115.9. The results of this ANOVA revealed that this difference in means was significant at a level greater than 0.001. This indicated that sex of subject was related to the obtained ATDP scores of the subject, with females holding more positive attitudes toward physically disabled persons, as indicated by their higher mean ATDP scores. Table 8 presents a summary of the results obtained by this ANOVA procedure:

TABLE 8.

Summary Analysis of Variance (One-way)

Source	ss	df	ms	F	P
between	15801.00	1	15801.00	35.22	0.000
within	310837.00	693	448.53		
total	326638.00	694			

In a further attempt to explore the possible relationship between sex of subject and obtained ATDP scores, a cross-tabulation of sex, educational level, and contact was performed. This information is presented in Table 9.

TABLE 9

Cross-Tabulation of Sex, Contact and Educational Level

Contact	Sex	Educational Level		
		Junior High (grade 7)	Senior High (grade 11)	University (second-year)
Contact	F	86	92	64
	M	91	87	56
No-contact	F	32	60	11
	M	64	29	23

As can be seen in Table 9, the ratios of females to males are not equal in the contact group, for each of the three educational levels; however they are not greatly disproportionate.

On the other hand, the ratios of females to males are disproportionate in the no-contact groups, for each of the three educational levels. The ratio of females to

males is higher (approximately 2:1) in the grade eleven no-contact group than in the grade eleven contact group. The ratio of males to females is higher (approximately 2:1) in the grade seven no-contact group than in the grade seven contact group, and higher in the university no-contact group than in the university contact group.

If indeed there is a sex difference in obtained ATDP scores, then the findings with respect to the ratio of males to females lends support to this difference. Assuming that males score lower on the ATDP (indicating a less positive attitude toward physically disabled persons) than females, and since the ratio of males to females is higher in the grade seven no-contact group than in the grade seven contact group (Table 9), then this could be a possible reason for the finding that the mean ATDP score for the grade seven no-contact group was lower than that of the grade seven contact group (Table 5).

A similar relationship might hold true for the university group, with respect to the finding that the mean ATDP score of the university no-contact group was lower than that of the university contact group, since the ratio of males to females is higher in the university no-contact group than in the university contact group (Table 9).

The reversal in ratio, that is, the ratio of females to males being higher in the grade eleven no-contact group than in the contact group, may be due to that particular sample of students. It is, however, also in keeping with the speculation that sex differences do exist in measured attitudes toward physically disabled persons. Specifically, the Sheffé test found no significant difference between the grade eleven contact group and the grade eleven no-contact group (Table 7), and also the mean ATDP score for the no-contact group was slightly higher than that of the contact group (Table 5).

The finding that the ratio of females to males was 2:1 in the grade eleven no-contact group and also the reverse of that found in the university no-contact group (Table 9) may be a possible explanation for the mean ATDP score of the grade eleven no-contact group being higher than that of the university no-contact group, even though the difference was not significantly significant.

This trend in explanation, however, does not provide an explanation for the non-significant differences found between the mean ATDP scores of the

grade seven and university no-contact groups, or of the
grade eleven and university contact groups.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary and Conclusions

The purpose of this study was to describe and compare the expressed attitudes toward physically disabled persons of non-disabled persons of different educational levels and previous contact with physically disabled persons. Attitudes towards disabled persons were measured by the Attitudes Toward Disabled Persons (ATDP) scale, and general information about each subject was obtained by means of a prepared questionnaire. Specifically, comparisons were made between the mean ATDP scores of non-disabled subjects who had had previous contact with physically disabled persons and those who had not experienced such contact; between the mean ATDP scores of non-disabled subjects of three educational levels: junior high (grade seven), senior high (grade eleven), and second-year university; and between the mean ATDP scores of non-disabled subjects who had had previous contact with physically disabled persons and those who had not had such contact for each of the three educational levels. In addition, the results obtained were

investigated with respect to the possibility of a relationship between the subjects' sex and measured attitudes toward physically disabled persons.

Data from this investigation were analyzed by means of the analysis of variance and the Sheffé statistical tests. The main findings of these analyses are summarized and discussed under the following headings:

- (1) main effects of contact and educational level;
- (2) interaction effects of contact and educational level;

Main Effects of Contact and Educational Level

A comparison of mean ATDP scores between the total number of subjects who had previously experienced contact with disabled persons and subjects who had not experienced such contact, across educational level, revealed that the independent variable, contact, was related to measured attitudes towards physically disabled persons. Non-disabled subjects who had experienced contact with physically disabled persons held more positive attitudes towards them (as measured by the ATDP) and therefore these subjects can be said to be generally more accepting of physically disabled persons than subjects who had not had such contact. This finding supports the

general trend of past research dealing with the relationship between contact and attitudes toward disabled persons (Arnholter, 1963; Roeher, 1959; Saller, 1963; and West, 1962). It should be emphasized, however, that in each of these studies, different aspects of contact with disabled persons were examined, and therefore their results cannot be directly compared to each other, or to the results of this study. Also, in this particular study, the variable "contact" was considered to be dichotomous (either the subject had experienced contact; or had not), while some researchers have found that "contact", including maximal and minimal, leads to positive and negative values respectively (Homans, 1950; and Roeher, 1959). Therefore, it is possible that degree of contact was a confounding variable in this study.

Comparisons of mean ATDP scores between subjects in each of the three educational levels (junior high school-grade seven; senior high school-grade eleven; and second-year university) revealed that the independent variable, educational level, also was related to measured attitudes toward disabled persons. Subjects of both the grade eleven and university samples scored higher on the ATDP than subjects in grade seven, indicating that subjects in the higher educational levels tended to be more accepting of physically disabled persons than younger subjects in the

lower educational level. These general results support trends found in other studies that were partly concerned with educational level (Auvenshine, 1962; Knittel, 1963; Siller, 1964; and Szuhay, 1961). Such support should be interpreted with caution since each of these studies involved different ranges of grade level and used different statistical procedures. In addition, the possibility should be recognized that age was a confounding variable in this study, since chronological age increases along with level of education. Results also indicated that there appeared to be no difference in attitudes between the grade eleven students and university students.

Interaction Effects of Contact and Educational Level

Comparisons of mean ATDP scores between subjects who had previously experienced contact with disabled persons and those who had not experienced such contact, for each of the three educational levels, revealed that the two independent variables, contact and educational level, interact in their relationship to measured attitudes toward disabled persons. If the absence of statistical significant differences between the mean ATDP scores of subjects in the grade eleven and university samples for both the contact and no-contact groups is due to changes in age and developmental changes, or the

possibility of a Type II error having been made, as implied earlier (Chapter IV), then the general results of this study suggest that as educational level increases, subjects who have had contact with physically disabled persons express more favorable attitudes towards (and therefore are more accepting of) disabled persons than subjects who have not had such contact.

Further examination revealed that this interaction relationship between contact and educational level was not one of simple linearity. If this interaction relationship was linear, then it would be expected that subjects in both the contact and no-contact group of each successive grade level would score increasingly higher on the ATDP, indicating an increasingly favorable attitude toward physically disabled persons. Also, it would be expected that the contact group of each grade level would score higher on the ATDP than the no-contact group. This was not the case since the difference in the mean ATDP scores between the grade eleven contact group and that of the no-contact group was not statistically significant. Neither was there any statistically significant difference between the mean ATDP score of the university no-contact group and that of the grade seven no-contact group. Also, since the grade eleven subjects did not score significantly differently from the university subjects in either the contact or the no-contact group, it could be speculated that the educational span of two years between the senior high (grade eleven) students and the second-year university students was not sufficient to

produce an observable difference in expressed attitudes toward disabled persons. On the other hand, it could be speculated that the formation of attitudes, in general, is completed by the time students attain grade eleven and therefore no significant increase in attitude is observed for the second-year university students.

This non-linear relationship between educational level and contact in relationship to measured attitudes of non-disabled persons towards disabled persons generally supports the findings of Knittel (1963) and Siller (1964), however, their specific results did not correspond to the specific results of this present study. Knittel found that junior high school students who had no disabled sibling scored higher on the ATDP-O than senior high students and Siller found that junior high school students were more accepting (obtained higher scores on the ATDP-O) than senior high school students. The level of significance was not reported in either of these instances. These differences in specific results might be related to their use of the ATDP-O, rather than the ATDP-B. Also, as mentioned earlier (Chapter II), Knittel's experimental group consisted of subjects who had disabled siblings, which involves a very select type of relationship. Siller (1964) did not investigate the possibility that educational level might be interacting with contact in

its relationship to measured attitudes of non-disabled persons toward disabled persons.

Discussion and Implications

It is felt by the investigator that the results of this present study should be examined within the framework of the social and emotional development of the adolescent, since all subjects in the study were in various "stages" of adolescence.

Adolescence is considered to be a period of transition between childhood and adulthood, during which an individual is confronted with several changes occurring in every area of his life: physical, emotional, social and intellectual. Thus, in Western culture at least, adolescence incorporates a period of time in which the individual attempts to come to terms with himself and his relationship to his environment.

During adolescence, intellectual abilities change from a concrete level to an abstract level which provides the individual with the capability of hypothesizing. Thus the individual can infer beyond the perceptually given. Flavell (1963) says:

... his [the adolescent's] world is full of informal theories about self and life, full of plans for his and society's future, in short, full of ideation which goes far beyond his immediate situation... (p. 223)

With development and maturation the adolescent is constantly being subjected to new experiences, his knowledge is growing and expanding, he is nearing adulthood with all its new points of reference, and therefore it is inevitable that significant changes in attitudes and ideals will occur. Horrocks (1962) says:

As adolescence proceeds there is increasing individuality as compared to the clustering of similar responses leading to conformity and stereotyping of the younger years. One would expect that older teenagers are less stereotyped in their conceptual judgements than are younger ones (p. 469)

and Powell (1971) says:

... This is not to suggest that there are specific attitudes peculiar to the adolescent time period, since this is unlikely. Attitudes are generally closely related to the individual's personality and are the results of previous environmental experience (p. 348),

also "... with increasing age he [the adolescent] tends to become more liberal in his attitudes" (p. 273). It is conceivable that exposure to new experiences could result in increased willingness to confront new situations and a higher tolerance and greater acceptance of those who are "different". Thus, within the framework of the developing adolescent and the concurrently increasing educational level, the individual might be expected to generalize beyond the specifics, that is to say, generalize from contact with certain physically disabled persons, to the

abstract, that is to say, all or most physically disabled persons. This, then, might account for the general findings that with increasing educational level subjects who have experienced contact with physically disabled persons tend to have more positive or favorable attitudes towards physically disabled persons as a group than subjects who have not experienced such contact.

While the results of this study have been viewed in a "developmental" framework, the possibility that a sex difference exists in non-disabled persons' measured attitudes toward disabled persons cannot be overlooked. If, as other studies indicate (also this study, indirectly), that females tend to score higher on the ATDP, indicating a more positive or favorable attitude toward disabled persons than males, then the difference in mean ATDP scores found between contact and no-contact groups for each educational level may be due to the differences in ratios of females to males in these experimental groups (Chapter IV).

Since the results of this study indicated that there is a strong possibility that sex of subject is related to attitudes towards physically disabled persons, it might prove interesting to speculate about the outcome of the study if sex of subject had been controlled.

Assuming, then, that sex of subject had been controlled so that the ratio of males to females was proportionate in each of the higher educational levels, the mean ATDP score of the university no-contact group would likely be lowered and that of university contact group would be raised, and the mean ATDP score of the grade eleven no-contact group would likely be lowered and that of the grade eleven contact group would be raised. Also, since the results of this study have indicated that there apparently was no significant difference in attitudes toward physically disabled persons between the grade eleven and university subjects, it would be possible to collapse the grade eleven and university groups to form one group. Such a combination might have resulted in any one of three hypotheses concerning the measured attitudes toward disabled persons:

1. Null Hypothesis (H_0): that there would be no interaction between educational level and contact, with respect to the attitudes of the subjects of the combined higher educational levels.

2. Alternate Hypothesis (H_{1A}): that there would be an interaction between educational level and contact. In this case, there would likely be less difference in mean ATDP scores between the contact and no-contact groups in the higher educational levels (composite group) than

in the lower educational levels (grade seven). Such results might possibly have been due to the socio-economic status of the subjects. Subjects in the composite group would probably have been a more select group than subjects in the lower educational levels, since by the time students have attained grade eleven, and certainly university, those intending to drop out have already done so. The literature indicates that the more highly educated are more liberal in their attitudes and would likely be more positive in their attitudes toward disabled persons. If subjects of higher educational levels already have a positive attitude toward disabled persons, then direct exposure to physical disability would not likely result in such a pronounced difference in ATDP scores as might have been expected.

3. Alternate Hypothesis (H_{1B}): that there was an interaction between educational level and contact. In this case, there would likely be a greater difference in mean ATDP scores between the lower educational level and the higher educational level in the contact group than in the no-contact group. Such results might possibly have been due to the degree of contact with physically disabled persons to which non-disabled persons are exposed. Opportunity for greater contact increases with age and educational level and therefore older subjects in the

higher educational level might be expected to be more positive in their attitudes toward disabled persons than younger subjects who might only have had the opportunity for a rather limited amount of contact. This speculation, also supported by the literature (Homans, 1950 and Roeher, 1959), indicated that maximal contact with physically disabled persons resulted in more positive attitudes toward disabled persons than minimal contact, which tended to depress ATDP scores.

These three possibilities, along with the actual results are depicted in Figure 2.

Such speculation (alternative hypotheses H_{1A} and H_{1B}) would indicate, as does the actual results of this study, that educational level is positively related to attitudes towards disabled persons, whether or not the non-disabled subjects have been exposed to contact with physically disabled persons.

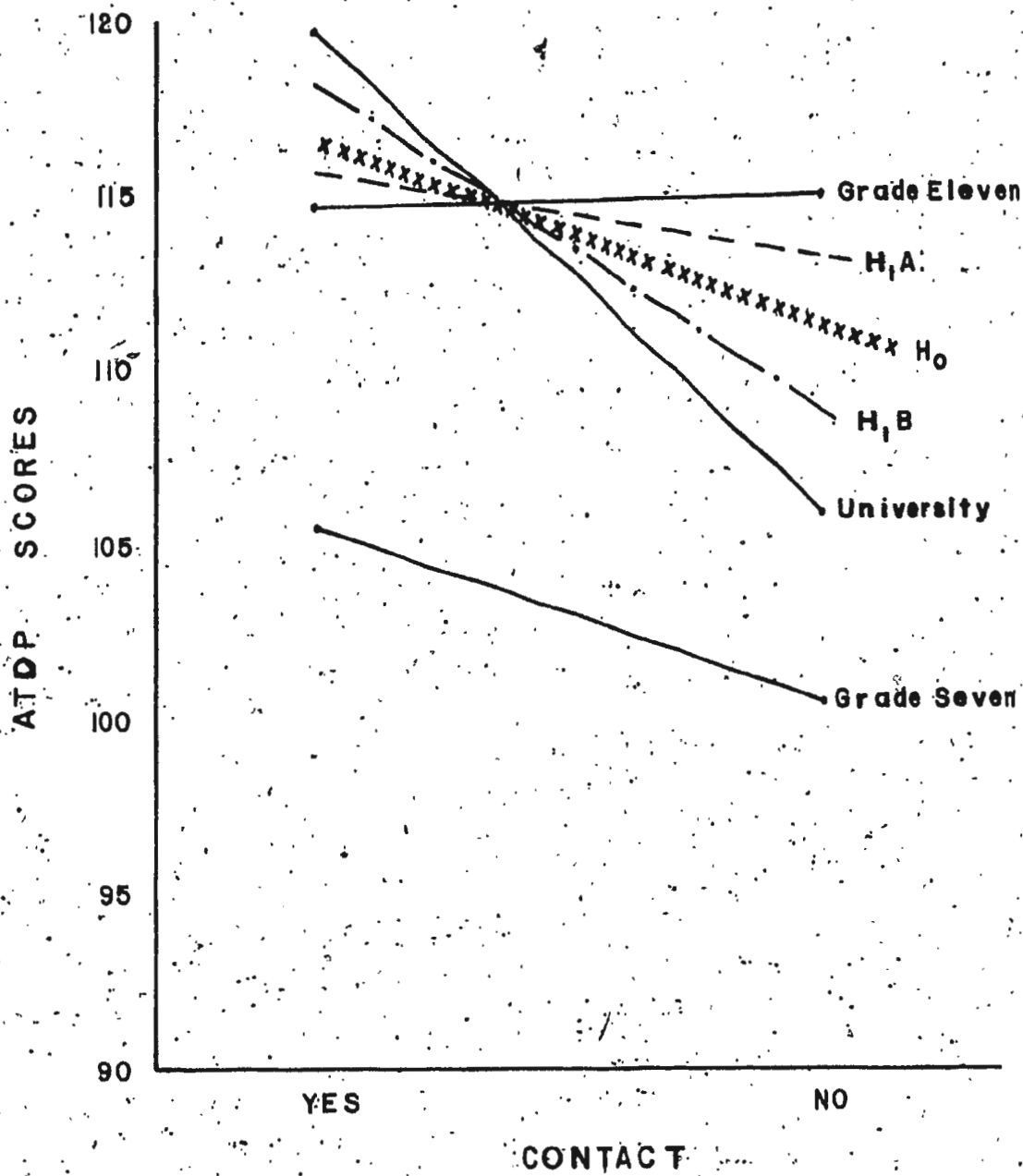
Implications

Findings from this study suggest implications for physically disabled persons, for those who are employed in the rehabilitation of physically disabled persons, and for those who are concerned with educational programs for the public.

Figure 2

Hypothesized Relationships Between
Educational Level and Contact

Figure 2

KEY

Actual Results _____

Composite Group H₀ xxxxxxxxxx

Composite Group H₁A -----

Composite Group H₁B

This study clearly indicates that there is a positive, interaction relationship between contact with disabled persons and educational level of non-disabled persons to verbally expressed attitudes toward disabled persons. The major implication of such findings concerns the integration and participation of physically disabled persons in the mainstream of today's society. It appears that having contact with physically disabled persons results in increasingly positive attitude of non-disabled persons and also that such contact is effective in varying educational levels (and therefore, developmental stages) of non-disabled subjects. If these two major findings are examined in relation to each other (the interaction of which is demonstrated in this study), it would seem that integration would be more effective if the disabled person (assuming that he possesses adequate capabilities) is placed in the mainstream of society as early as possible. This would imply that part of the solution includes schools in which disabled students and non-disabled students are not segregated, for example, as they would be in special schools.

From the point of view of those concerned with the "education" of the public, and specifically potential employers, it would also seem that since contact is such an important factor, the earlier such educational programs

are instituted, the more effective they are likely to be. A reciprocal relationship exists for the disabled person: if the disabled individual is held in good regard by society, a good adjustment is more likely.

Suggestions for Further Research

1. Since there was an interaction relationship, observed in this study, between contact and educational level to expressed attitudes toward physically disabled persons, a longitudinal study of subjects through various educational levels would seem to be a logical follow-up.

2. This study showed that the independent variable, contact, was related to expressed attitudes toward disabled persons. Since various interpretations are attributed to the term "contact", further exploration of this variable is needed; perhaps a study involving the dichotomy of minimal contact and maximal contact would be appropriate.

3. Since there appears to be a distinct possibility of a relationship between sex of subject and expressed attitudes towards disabled persons, a similar study, controlling for this variable, might be conducted.

4. Generally, attitudes refer to certain regularities of an individual's feelings, thoughts, and

predispositions to act toward some aspect of his environment. This present study has, to a certain extent, explored these first two components. A study exploring the behavioral component of non-disabled subjects' attitudes toward disabled persons might reveal any discrepancy which exists between verbal expressed attitudes and behavior.

APPENDICES

306-15, Dept. of Educational Psychology,
Memorial University of Newfoundland,
St. John's, Newfoundland, Canada.
June 14, 1974.

J.R. Block, Ph.D.,
Director, Human Resources Foundation,
Insurance Co. of North America,
Independent Institute,
Albertson, N.Y. 11507
Dear Sir:

Presently, I am working on a masters thesis, the purpose of which is to determine the existing attitudes of non-disabled persons toward disabled persons. This thesis will involve administering and interpreting a standardized scale measuring attitudes toward disabled persons. There will be two independent variables:

- (1) educational level
- (2) contact

Therefore I am requesting permission to use Form B of the Attitudes Toward Disabled Persons (ATDP) scale and if permission is granted, I would appreciate a copy of this particular scale, as well as permission to duplicate as many copies of the scale as will be needed for the above mentioned study.

An immediate reply would be appreciated.

Yours truly,

Glen A. Sheppard

Glen Sheppard (supervisor)

Glen Sheppard
Associate Professor,

Dept. of Educational Psychology,
Memorial University of Newfoundland,
St. John's, Newfoundland, Canada.

You have our permission to reproduce scales for you use

*J.R. Block Ph.D.
Human Resources
Foundation, Inc.*

The Avalon Consolidated School Board

P. O. BOX 1980
ST. JOHN'S, NEWFOUNDLAND

Chairman: E. W. HUTCHINGS

Vice-Chairman: H. W. R. CHANCEY

Secretary: L. M. NOSEWORTHY

Treasurer: F. M. MILLEY

Superintendent: G. B. MARCH, M.A.

Asst. Superintendent: N. KELLAND, B.A. (Ed.), M.Ed.

Business Administrator: D. L. BISHOP, C.A.

September 18th, 1974.

Miss Verena F. Gosse,
Apartment 200,
Kelly's Brook Apartments,
Corner Stamp's Lane & Empire Avenue,
ST. JOHN'S, Newfoundland.

Dear Miss Gosse,

I hereby give approval for you to approach the Guidance Counsellors in our junior and senior high schools to request their co-operation to conduct a study outlined in your recent letter.

It has to be clearly understood this approval is given subject to acquiring the written approval of parents whose children will be involved in the study.

Yours truly,



N. Kelland,
Acting Superintendent.

NK/cw

2252

Roman Catholic School Board for St. John's

BELVEDERE
BONAVENTURE AVENUE
ST. JOHN'S, NEWFOUNDLAND

September 20, 1974

Miss Verena F. Gosse
Apt. 200
Kelly's Brook Apts.
Corner of Stamp's Lane and Empire Ave.
St. John's, Nfld.

Dear Miss Gosse:

Reference is made to your letter of August 31,
1974.

Please be advised your research request as outlined
in your letter has been approved on the condition that the
Guidance Counsellors who will administer the test agree to
same.

I would suggest that you contact the Guidance Coun-
sellors in the following schools to discuss your proposal:
Brother Rice, Beaconsfield, Holy Heart of Mary and Gonzaga.

This letter should be used by you as an introduction
to the people concerned.

Sincerely,



Kevin E. Veitch
Assistant Superintendent

KEV:b c

TO THE SCHOOL COUNSELOR OR HOME-ROOM TEACHER

1. Distribute notes to parents via students. If no reply is received after three (3) days, testing can begin.
2. Explain to the students that they will be taking part in a study to find out how much they know about physically disabled persons and how often they have had contact with such people. Make sure they know what "physically disabled" means, as defined on the "General Information" sheet i.e. -

"A physically disabled person means one whose physical disability is permanent and can be easily seen, for example, an arm or leg missing, use of crutches, braces, or wheelchair," etc. Also for the students' purposes "contact" will mean usual amount of time spent with a disabled person.

Answer any questions the students might have unless you feel that by answering there is a possibility that you might influence their answers in some direction.

3. Distribute the main questionnaire (ATDP scale - Form B) and the "Answer Sheet" which accompanies it. Caution the students to answer all questions and not to mark on the question sheet.* If there are some misunderstandings about the instructions at the top of the questionnaire, clarify them. Answer any questions the students might have about the "meaning of words." Do not distribute the "General Information" sheet until the main questionnaire has been completed and handed in.

*Have the students print their names (first name and initial of surname) on the answer sheet.

4. When the main questionnaire and the accompanying answer sheet has been returned to you, distribute the "General Information" sheet. Again, have the students print their names (first name and initial of surname) on this sheet. As well, ask them to answer all the questions.

5. Regarding question numbers 3 and 4 on the "General Information" sheet:

The numbers (1, 2, 3, 4 and 5) in the left-hand column represent people. For each of these persons, indicate the required information under the appropriate heading. e.g.

	<u>Age</u>	<u>Sex</u>	<u>Relationship</u>
#1	13	F	cousin
#2	15	M	friend
#3	3	F	sister

6. Collect the "General Information" sheets and thank the students for their cooperation.

Thank You!

Verena F. Gosse

APPENDIX E

Dear Parent:

It would be greatly appreciated if you would permit your son/daughter to participate in a study being carried out in the school. The study is an attempt, on my part, to measure the students' understanding of physically different people. Your son/daughter would be asked to fill out a questionnaire given to him/her by the school counselor (or home-room teacher).

If you object to your son's/daughter's participation, please send a note to that effect to the school counselor (or home-room teacher) within three days.

Thank you for your time and consideration.

Sincerely,

Verena F. Gosse

Graduate Student at
Memorial University of Newfoundland

APPENDIX F

Form B

ATDP SCALE

READ EACH STATEMENT AND PUT AN "X" IN THE APPROPRIATE COLUMN ON THE ANSWER SHEET. DO NOT MAKE ANY MARKS ON THE QUESTION SHEETS.

PLEASE ANSWER EVERY QUESTION

-
1. Disabled persons are usually friendly.
 2. People who are disabled should not have to pay income taxes.
 3. Disabled people are no more emotional than other people.
 4. Disabled persons can have a normal social life.
 5. Most physically disabled persons have a chip on their shoulder.
 6. Disabled workers can be as successful as other workers.
 7. Very few disabled persons are ashamed of their disabilities.
 8. Most people feel uncomfortable when they associate with disabled people.
 9. Disabled people show less enthusiasm than non-disabled people.
 10. Disabled people do not become upset any more easily than non-disabled people.
 11. Disabled people are often less aggressive than normal people.
 12. Most disabled persons get married and have children.
 13. Most disabled persons do not worry any more than anyone else.
 14. Employers should not be allowed to fire disabled employees.
 15. Disabled people are not as happy as non-disabled ones.
 16. Severely disabled people are harder to get along with than are those with minor disabilities.
 17. Most disabled people expect special treatment.

18. Disabled persons should not expect to lead normal lives.
19. Most disabled people tend to get discouraged easily.
20. The worst thing that could happen to a person would be for him to be very severely injured.
21. Disabled children should not have to compete with non-disabled children.
22. Most disabled people do not feel sorry for themselves.
23. Most disabled people prefer to work with other disabled people.
24. Most severely disabled persons are not as ambitious as other people.
25. Disabled persons are not as self-confident as physically normal persons.
26. Most disabled persons don't want more affection and praise than other people.
27. It would be best if a disabled person would marry another disabled person.
28. Most disabled people do not need special attention.
29. Disabled persons want sympathy more than other people.
30. Most physically disabled persons have different personalities than normal persons.

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AT HUMAN RESOURCES CENTER
ALBERTSON, NEW YORK 11507

APPENDIX G

ATDP - FORM B

CODE # _____

ATDP SCALEANSWER SHEET
FORM B

Use this answer sheet to indicate how much you agree or disagree with each of the statements about disabled people on the attached list. Put an "X" through the appropriate number from +3 to -3 depending on how you feel in each case.

+3: I AGREE VERY MUCH

+2: I AGREE PRETTY MUCH

+1: I AGREE A LITTLE

-1: I DISAGREE A LITTLE

-2: I DISAGREE PRETTY MUCH

-3: I DISAGREE VERY MUCH

PLEASE ANSWER EVERY ITEM

(1)	-3	-2	-1	+1	+2	+3	(16)	-3	-2	-1	+1	+2	+3
(2)	-3	-2	-1	+1	+2	+3	(17)	-3	-2	-1	+1	+2	+3
(3)	-3	-2	-1	+1	+2	+3	(18)	-3	-2	-1	+1	+2	+3
(4)	-3	-2	-1	+1	+2	+3	(19)	-3	-2	-1	+1	+2	+3
(5)	-3	-2	-1	+1	+2	+3	(20)	-3	-2	-1	+1	+2	+3
(6)	-3	-2	-1	+1	+2	+3	(21)	-3	-2	-1	+1	+2	+3
(7)	-3	-2	-1	+1	+2	+3	(22)	-3	-2	-1	+1	+2	+3
(8)	-3	-2	-1	+1	+2	+3	(23)	-3	-2	-1	+1	+2	+3
(9)	-3	-2	-1	+1	+2	+3	(24)	-3	-2	-1	+1	+2	+3
(10)	-3	-2	-1	+1	+2	+3	(25)	-3	-2	-1	+1	+2	+3
(11)	-3	-2	-1	+1	+2	+3	(26)	-3	-2	-1	+1	+2	+3
(12)	-3	-2	-1	+1	+2	+3	(27)	-3	-2	-1	+1	+2	+3
(13)	-3	-2	-1	+1	+2	+3	(28)	-3	-2	-1	+1	+2	+3
(14)	-3	-2	-1	+1	+2	+3	(29)	-3	-2	-1	+1	+2	+3
(15)	-3	-2	-1	+1	+2	+3	(30)	-3	-2	-1	+1	+2	+3

APPENDIX H

GENERAL INFORMATION

NAME: _____ GRADE (YEAR): _____
 AGE: _____ SCHOOL: _____
 SEX: _____ HOME ROOM TEACHER:
 (INSTRUCTOR) _____
 HOW MANY BROTHERS AND SISTERS DO YOU HAVE? _____

This questionnaire is an attempt to find out how often people of your age have contact with physically disabled persons.

For the purpose of this study, a physically disabled person means one whose physical disability can be easily seen, for example, an arm or leg missing, use of crutches, braces or wheelchair, etc.

It would be greatly appreciated if you would answer the following questions:

1. Have you had any contact with a physically disabled person (as described above)?

YES

☐

NO

☐

2. If yes, how many persons? _____

3. Would you please give the following information about each person:

AGE SEX RELATIONSHIP (immediate family, relative or friend)

#1

#2

#3

#4

#5

4. Please indicate the amount of contact you usually have with each person:

EVERY
DAY

EVERY
WEEK

EVERY
MONTH

6 - 10
TIMES/YR.

1 - 5
TIMES/YR.

LESS THAN
ONCE/YR.

#1

#2

#3

#4

#5

THANK YOU FOR YOUR COOPERATION

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